

Nā Honu O Kahalu'u Engaging the Community in Place-based Management

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Kahalu'u Beach County Park located in the big island of Hawai'i was established in 1970, is an important cultural and recreational area. The park hosts over 400,000 visitors a year who participate in recreational activities including surfing, snorkeling, sunbathing, and fishing. The Kahalu'u Bay Education Center (KBEC) was established in 2011 and it includes the ReefTeach Program which aims to educate visitors and residents alike on how to avoid damaging corals and how to take care of Nā Honu O Kahalu' u (the green turtles of Kahalu' u) and other reef animals. While it is an exemplary program, there was concern regarding the interactions of tourists and honu in the bay. This project builds on 21 years of field research at Kahalu'u by M. Rice and G. Balazs, and had two major goals. The first was to better understand the ecology of the turtles at Kahalu'u. The second was to identify the human-turtle interactions through a citizen science program and to develop site-based management plans to enhance turtle conservation through visitor awareness.

Baseline data was gathered on growth rates, feeding preferences, movements, health status, and habitat requirements for the honu at Kahalu'u Bay. Twenty nine honu were captured, tagged, and morphometric data were taken. The honu were harmlessly marked with a carapace number (K1-K29). The mean growth rate for 9 recaptured turtles was .82 cm / year. The average size (SCL) of turtles captured was 50.0 cm with a range of 39.6 to 66.9 cm. Mouth samples collected showed that turtles feed on *Pterocladia* sp., *Ulva* sp., and other unidentified algae. We found that the majority of the turtles monitored stayed within the bay (20 of 29)

during the project. Honu spent 66% of the time feeding, and 34% of the time resting or traveling during the day. At night, 100% were observed resting.

Community members, ReefTeach volunteers, high school students and visitors monitored the location and behavior of the numbered honu on a regular and a haphazard basis (visitor reports). This data was compiled to gain a clearer understanding of the range and behavior of the honu. At the same time, human use patterns and behaviors were recorded and mapped. Separately, timed observations of the behavior of humans in the presence of turtles and levels of disturbance were recorded. Observed human-turtle interactions involved very few “disturbance” incidents with only two classified as level 2 (turtle actively fled the area). Seven percent of the tourists that were observed within 2 feet of a honu caused a minor reaction (Disturbance level 1). Following these observations ReefTeach Volunteers adjusted their location to more tourist and turtle dense areas. The ReefTeach volunteers have also begun educating tourists to consider cameras on telescopic mounts (GoPro type) as an extension of their body that should be kept at least 10 feet away from the honu. With these changes, the program is more effective at managing human-turtle interactions at Kahalu’u Bay Beach Park.